# LED Techno Strobe ST-3000LED







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Information and specifications in this User Manual are subject to change without notice. CHAUVET assumes no responsibility or liability for any errors or inaccuracies that may appear in this manual.

# 1. Before You Begin

# **UNPACKING INSTRUCTIONS**

Immediately upon receiving a product, carefully unpack the carton, check the contents to ensure that all parts are present, and have been received in good condition. Notify the shipper immediately and retain packing material for inspection if any parts appear damaged from shipping or the carton itself shows signs of mishandling. Save the carton and all packing materials. In the event that a fixture must be returned to the factory, it is important that the fixture be returned in the original factory box and packing.

Note:

If you should require sending any items back to CHAUVET, call CHAUVET for a (RMA) Return Merchandise Authorization number. The factory will not allow any shipments without an RMA.

# Your shipment includes the following:

- 1 x LED Techno Strobe™
- 1 x Power cable
- 1 x Warranty Card
- 1 x Users Manual

# **CONTACT US**

# World Wide

General Information Chauvet Lighting

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# IMPORTANT SAFETY INFORMATION



This product is designed for professional use. It is not intended for use in a household environment. This product presents risks of lethal or severe injury due to fire and heat, electric shock, ultraviolet radiation, lamp explosion, and injury from falls. **Read this manual** before installing or powering the fixture, follow the safety precautions listed below and observe all warnings in this manual and on the fixture. If you have any questions about how to operate the fixture safely, please contact CHAUVET.

# Protection against Electric Shock

- Always disconnect from AC power source before servicing or replacing lamp or fuse and be sure
  to replace with same lamp source.
- All Class I fixtures must be connected to circuits with a suitable Earth Ground.
- To prevent risk of fire or shock, do not expose fixture to rain or moisture. Make sure there are no flammable materials close to the unit while operating.
- Do not operate the fixture if covers are open or if any internal component is missing or damaged: an unshielded discharge lamp emits dangerous UV radiation that can cause burns and eye damage.
- Make sure power cord is never crimped or damaged.
- Never disconnect power cord by pulling or tugging on the cord.

# Protection against Fire & Burns

- This product is designed to be used with very specific lamp(s). Use of any other type of lamp not stated in this manual may create a fire hazard due to possible risk of lamp explosion. Using the wrong type of lamp in this product VOIDS the warranty.
- Always make sure that you are connecting to the proper voltage and that the line voltage you are connecting to is not higher than that stated on decal or rear panel of the fixture.
- The unit must be installed in a location with adequate ventilation, at least 50cm from adjacent surfaces. Be sure that no ventilation slots are blocked.
- Maintain a minimum distance of 1 meter (3.28 feet) from combustible materials.
- Allow this product to cool for a minimum of 15 minutes before opening, handling or removing the lamp in this product.
- Maximum ambient temperature is Ta: 40°. Do not operate fixture at temperatures higher than this.

# Protection against exposure to (UV) Ultraviolet Radiation

- Avoid direct eye exposure to lamp while it is on.
- Do not operate the fixture if covers are open or if any internal component is missing or damaged.

# Protection against Injury to persons

- Secure fixture to fastening device using a safety chain.
- A hot lamp is an explosion hazard. Do not open fixture for a minimum of 15 minutes after switching off. Wear eye and hand protection when re-lamping.
- Fixture surface may reach temperatures of up to 160° C (320° F). Handle fixture after it cools.
- In the event of serious operating problem, stop using the unit immediately. Never try to repair the
  unit by yourself. Repairs carried out by unskilled people can lead to damage or malfunction.
   Please contact the nearest authorized technical assistance center. Always use the same type
  spare parts.

# Caution!

There are no user serviceable parts inside the unit. Do not open the housing or attempt any repairs yourself. In the unlikely event your unit may require service, please contact CHAUVET.

# 2. Introduction

# **FEATURES**

- 3-channel DMX-512 LED white strobe light
- Blackout/static/dimmer/strobe
- Adjustable flash rate, dimmer and static in stand-alone via DIP switches
- Built-in automated programs via master/slave or DMX
- Built-in sound activated programs via master/slave or DMX

# **ADDITIONAL FEATURES**

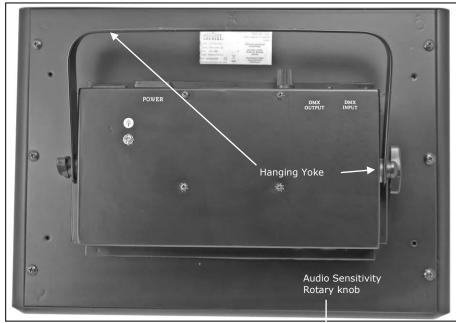
- Linkable with LED Shadow<sup>™</sup>, LED Shadow<sup>™</sup> 2, LED Techno Strobe<sup>™</sup>, LED Techno Strobe<sup>™</sup> RGB, LEDsplash<sup>™</sup> 200B and LEDsplash<sup>™</sup> 2 in stand alone
- Additional power output: max 50 units
- Includes brackets for wall and truss mounting

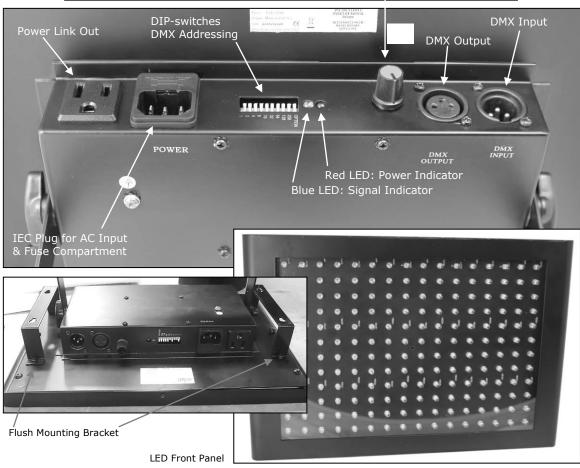
# **DMX CHANNEL SUMMARY**

1		2	3	DMX Channel
Dimmer	000~039	Strobe Slow ~ Fast		(Columns)
Preset Programs (1 ~ 6)	040~239	Speed Slow ~ Fast	Intensity 100% ~ 0%	
Sound Mode	240~255	No Function		
CONTROL MODES & (Rows)	OPTIONS			

For a detailed view of DMX values turn to the Appendix section in this manual. Control mode parameters are set by DMX values in Channel # 1.

# **PRODUCT OVERVIEW**





# 3. Setup

# **AC Power**

# Warning!

Verify that the power requirement label on your unit matches the line voltage applied. All fixtures must be connected to circuits with a suitable Earth Ground.

- To determine the power requirements for a particular fixture, see the label affixed to the back plate
  of the fixture or refer to the fixture's specifications chart.
- · A fixture's listed current rating is its average current draw under normal conditions.
- All fixtures must be powered directly off a switched circuit and cannot be run off a rheostat (variable resistor) or dimmer circuit, even if the rheostat or dimmer channel is used solely for a 0% to 100% switch.
- Before applying power to a fixture, check that the source voltage matches the fixture's requirement
- All fixtures must be connected to circuits with a suitable Earth Ground.

# **Power Cable Configuration**

CABLE	Pin	International	Screw Color
Brown	Live	L	Yellow or Brass
BLUE	Neutral	N	Silver
YELLOW/GREEN	Earth	EG (Ground)	Green

# MOUNTING

# Orientation

This fixture can be mounted on a truss using a clamp in any position or against a flat surface using the brackets provided.

# Rigging

The fixture includes a mounting yoke to which 1 rigging clamp can be bolted and (2) Flush Mount Brackets for flush mounting to flat surfaces. You must supply your own clamp and make sure the clamp is capable of supporting the weight of this fixture. You can order C-clamps from any CHAUVET dealer or distributor.

- Block access below the work area and use suitable and stable platform when installing or servicing fixture.
- Align the clamp screw with the center hole on the yoke and tighten.
- Verify the structure can hold 10 times the weight of all to-be installed fixtures.
- 4. Adjust the angle on the yoke arm as necessary.
- 5. Always use a safety cable or chain as a secondary source of attachment. The safety cable must hold 10 times the weight of the fixture. If safety cable attachment point is provided that is permanently affixed to the surface or body of the fixture, use that instead of looping through a hanging yoke/arm.

# Hanging Clamp



Flush Mounting Bracket



# Flush Mounting

- 1. Draw a screw hole template on a large piece of vellum or transparent paper for best alignment.
- Place paper against the mounting surface and drill holes or mark the surface for drilling.
- 3. Hang Panel.

# **FIXTURE LINKING**

You will need a serial data link to run light shows of one or more fixtures using a DMX-512 controller or to run synchronized shows on two or more fixtures set to a master/slave operating mode. The combined number of channels required by all the fixtures on a serial data link determines the number of fixtures the data link can support.

The ST-3000LED fixtures use 3 channels of DMX control.

Important: Fixtures on a serial data link must be daisy chained in one single line. To comply with the EIA-485 standard no more than 32 devices should be connected on one data link. Connecting more than 32 fixtures on one serial data link without the use of a DMX optically isolated splitter may result in deterioration of the digital DMX signal.

Maximum recommended serial data link distance: 500 meters (1640 ft.) Maximum recommended number of fixtures on a serial data link: 32 fixtures

# Data Cabling

To link fixtures together you must obtain data cables. You can purchase CHAUVET certified DMX cables directly from a dealer/distributor or construct your own cable. If you choose to create your own cable please use data-grade cables that can carry a high quality signal and are less prone to electromagnetic interference.

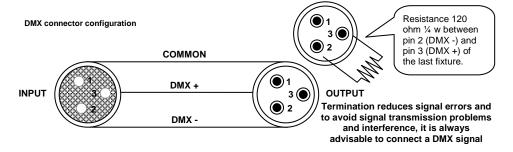
# **DMX Data Cable**

Use a Belden© 9841 or equivalent cable which meets the specifications for EIA RS-485 applications. Standard microphone cables cannot transmit DMX data reliably over long distances. The cable will have the following characteristics:

- 2-conductor twisted pair plus a shield
- Maximum capacitance between conductors 30 pF/ft.
- Maximum capacitance between conductor and shield 55 pF/ft.
- Maximum resistance of  $20\Omega$  / 1000 ft.
- Nominal impedance 100 140 $\Omega$

# **Cable Connectors**

Cabling must have a male XLR connector on one end and a female XLR connector on the other end.



**CAUTION** Do not allow contact between the common and the fixture's chassis ground. Grounding the common can cause a ground loop and your fixture to perform erratically. Test cables with OHM meter to verify correct polarity and to make sure the pins are not grounded or shorted to the shield or each other.

# 3-Pin to 5-Pin Conversion Chart

Note! If you use a controller with a 5 pin DMX output connector, you will need to use

a 5 pin to 3 pin adapter.

The chart below details a proper cable conversion:

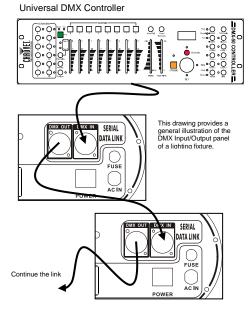
3 PIN TO 5 PIN CONVERSION CHART

Conductor	3 Pin Female (output)	5 Pin Male (Input)
Ground/Shield	Pin 1	Pin 1
Data ( - )signal	Pin 2	Pin 2
Data ( + ) signal	Pin 3	Pin 3
Not Used		Pin 4
Not Used		Pin 5

# SETTING UP A DMX SERIAL DATA LINK

- Connect the (male) 3 pin connector side of the DMX cable to the output (female) 3 pin connector of the controller.
- Connect the end of the cable coming from the controller which will have a (female) 3 pin connector to the input connector of the next fixture consisting of a (male) 3 pin connector.
- Then, proceed to connect from the output as stated above to the input of the following fixture and so on.

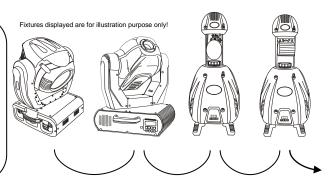
# **CHAUVET Certified DMX Data Cables**



# STANDALONE/MASTER-SLAVE FIXTURE LINKING

- Connect the (male) 3 pin connector side of the DMX cable to the output (female) 3 pin connector
  of the first fixture.
- 2. Connect the end of the cable coming from the first fixture which will have a (female) 3 pin connector to the input connector of the next fixture consisting of a (male) 3 pin connector. Then, proceed to connect from the output as stated above to the input of the following fixture and so on.

Often, the setup for Master-Slave and Standalone operation requires that the first fixture in the chain be initialized for this purpose via DIP switches. Secondarily the fixtures that follow may also require a slave setting. Please consult the "Operating Instructions" section in this manual for complete instructions for this type of setup and configuration.



# 4. Operating Instructions

The ST-3000LED is a DMX-512 controllable, flash LED panel made up of highly efficient and super bright white LEDs. The ST-3000LED can operate in Stand-Alone, Master/Slave and via DMX-512 control utilizing 3 channels.

# STANDALONE MODE

The ST-3000LED can be operated without a DMX controller in a can be operated as a single fixture or together with several othe called a "Master/Slave" configuration.



# Single-Fixture Mode

The ST-3000LED can be set to operate independently of other fixtures or a DMX controller in either a sound-active or automatic mode. A serial data-link is not necessary for this mode of operation and it is recommended that no connection to other fixtures be made at all.

1. Simply choose from any one of 10 built-in "DIP switch Options" from the table below.

# Master-Slave Mode

A master-slave mode setup consists of more than one fixture connected in a serial data link without the use of a controller. In a master-slave operation the slave fixtures will synchronize and will behave either identically or in a planned chase pattern to the master unit which must be the first in the serial daisy chain. A Master-Slave ST-3000LED system can consist of an unlimited range of fixtures or at least the number stated to conform to EIA-485 standards.

# Setup

- The ST-3000LED sets up automatically for Master-Slave, no DIP-switch settings are required other than for selecting DIP-switch Options.
- Connect the end of the cable coming from the first fixture which will have a (female) 3 pin connector to the DMX IN input connector of the Slave fixture consisting of a (male) 3 pin connector. Continue the loop from DMX OUT to DMX IN.

# **Dipswitch Options**

Functions	Dipswitches ( ON )	Notes & Description
Sound Active	None	Music: Sound Activated, Rotary knob sets sound sensitivity
Flash	1	Flash Speed 1
	2	Flash Speed 2
	3	Flash Speed 3
	4	Flash Speed 4
	5	Flash Speed 5
	6	Flash Speed 6
	7	Flash Speed 7
	8	Flash Speed 8
Full On	9	All LEDs full on
Preset Program	10	Preset Programs run in Automatic speed

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# **DMX CONTROL MODE**

The ST-3000LED can be operated from a DMX controller. This control mode environment gives the user the greatest flexibility when it comes to customizing or creating a show by enabling the control of each individual trait of the fixture and each fixture independently.

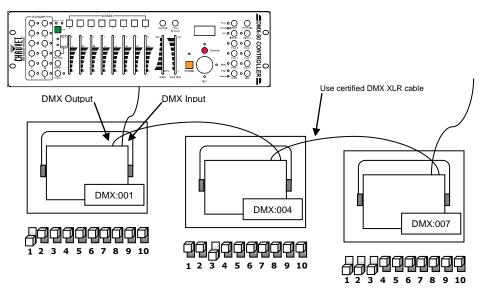
# Configuring for DMX control

- Connect the (male) 3 pin connector side of the DMX cable to the output (female) 3 pin connector
  of the controller.
- 2. Connect the end of the cable coming from the controller which will have a (female) 3 pin connector to the input connector of the next fixture consisting of a (male) 3 pin connector.
- Then, proceed to connect from the DMX output as stated above to the DMX input of the following fixture and so on.
- If you need help setting the DMX address read the section titled "Setting the DMX address" in this Chapter.

# Setting the DMX address

Each fixture requires a "start address" from 1 to 511. A fixture requiring one or more channels for control begins to read the data on the channel indicated by the start address. For example, a fixture that occupies or uses 7 channels of DMX and was addressed to start on DMX channel 100, would read data from channels: 100, 101, 102, 103, 104, 105 and 106. Choose start addresses so that the channels used do not overlap and notate the start address selected for future reference. If this is your first time, read the DMX Primer in the Appendix Section.

# DAISY CHAIN (SERIAL DATA LINK)



Visit the section titled; Binary & DMX DIP Switch Addressing on page 13 & Binary Addressing Quick Reference Chart on page 14 to quickly determine the binary DIP-switch settings for addressing.

# 5. Appendix

# **DMX PRIMER**

There are 512 channels in a DMX-512 connection. Channels may be assigned in any manner. A fixture capable of receiving DMX-512 will require one or a number of sequential channels. The user must assign a starting address on the fixture that indicates the first channel reserved in the controller. There are many different types of DMX controllable fixtures and they all may vary in the total number of channels required. Choosing a start address should be planned in advance. Channels should never overlap. If they do, this will result in erratic operation of the fixtures whose starting address is set incorrectly. You can however, control multiple fixtures of the same type using the same starting address as long as the intended result is that of unison movement or operation. In other words, the fixtures will be slaved together and all respond exactly the same.

DMX fixtures are designed to receive data through a serial Daisy Chain. A Daisy Chain connection is where the DATA OUT of one fixture connects to the DATA IN of the next fixture. The order in which the fixtures are connected is not important and has no effect on how a controller communicates to each fixture. Use an order that provides for the easiest and most direct cabling. Connect fixtures using shielded two conductor twisted pair cable with three pin XLR male to female connectors. The shield connection is pin 1, while pin 2 is Data Negative (S-) and pin 3 is Data positive (S+).

# RETURNS PROCEDURE

Returned merchandise must be sent prepaid and in the original packing, call tags will not be issued. Package must be clearly labeled with a Return Merchandise Authorization Number (RA #). Products returned without an RA # will be refused. Call CHAUVET and request RA # prior to shipping the fixture. Be prepared to provide the model number, serial number and a brief description of the cause for the return. Be sure to properly pack fixture, any shipping damage resulting from inadequate packaging is the customer's responsibility. CHAUVET reserves the right to use its own discretion to repair or replace product(s). As a suggestion, proper UPS packing or double-boxing is always a safe method to use.

# **CLAIMS**

Damage incurred in shipping is the responsibility of the shipper; therefore the damage must be reported to the carrier upon receipt of merchandise. It is the customer's responsibility to notify and submit claims with the shipper in the event that a fixture is damaged due to shipping. Any other claim for items such as missing component/part, damage not related to shipping, and concealed damage, must be made within seven (7) days of receiving merchandise.

# **MAINTENANCE**

To maintain optimum performance and minimize wear, fixtures should be cleaned frequently. Usage and environment are contributing factors in determining frequency. As a general rule, fixtures should be cleaned at least twice a month. Dust build up reduces light output performance and can cause overheating. This can lead to reduced lamp life and increased mechanical wear. Be sure to power off fixture before conducting maintenance.

Unplug fixture from power. Use a vacuum or air compressor and a soft brush to remove dust collected on external vents and internal components. Clean all glass when the fixture is cold with a

Appendix

mild solution of glass cleaner or Isopropyl Alcohol and a soft lint free cotton cloth or lens tissue. Apply solution to the cloth or tissue and drag dirt and grime to the outside of the lens. Gently polish optical surfaces until they are free of haze and lint. Do not to touch the lamp glass when cleaning fixture. Oil and dirt can cause damage and premature aging of the lamp. In the event that the lamp is touched or becomes dirty, clean the lamps with an alcohol wipe.

The cleaning of internal and external optical lenses and/or mirrors must be carried out periodically to optimize light output. Cleaning frequency depends on the environment in which the fixture operates: damp, smoky or particularly dirty surrounding can cause greater accumulation of dirt on the unit's optics. Clean with soft cloth using normal glass cleaning fluid. - Always dry the parts carefully. - Clean the external optics at least every 20 days. Clean the internal optics at least every 30/60 days.

# **BINARY & DMX DIP SWITCH ADDRESSING**

Each DIP-switch has an associated value. Adding the value of each switch in the ON position will provide the final address. Determining which switches to toggle ON given a specific desired address or value can be accomplished in the following manner. By subtracting the largest switch value possible from the selected start address which does not cause a negative number.

Alternatively, using the "Binary Addressing Quick Reference Chart" in the Appendix section of this manual, you can go directly to DIP switch settings associated with all 512 values available.

EXAMPLE ADDRESS			
Address 10  Pin # 4 = 8  Pin # 2 = 2  Total = 10	- ~ 4 % & % % % % % % % % % % % % % % % % %	Û on	
Address 24  Pin # 5 = 16  Pin # 4 = 8  Total = 24	- 4 2 2 3 4 5 6 7 8 9 10 1 2 3 4 2 6 4 8 8 10	Û ON	
Resolving address using simple math.	233 – (128) = 105, Turn ON DIP # 8 105 – (64) = 41, Turn ON DIP # 7	DIP SWITCH	(DMX VALUE)
Address 233	41 – (32) = 9, Turn ON DIP # 6 9 – (8) = 1, Turn ON DIP # 4 1 – (1) = 0, Turn ON DIP # 1  You will most likely use the first available number which maybe number 1. This number was selected for tutorial purposes.	1 2 3 4 5 6 7 8 9	1 2 4 8 16 32 64 128 256

Appendix

# BINARY ADDRESSING QUICK REFERENCE CHART

## **DMX & Binary Address Quick Reference Chart DIP** switch Position DMX DIP SWITCH SET #9 0=OFF #8 1=ON #7 X=OFF or ON #6 #2 #3

**DIP-switch Position** 

DMX Address

# **DMX CHANNEL VALUES**

# NOTE!

Please read all instructions carefully on fixture DMX control mode and addressing.

DMX channels 2, and 3 functions are determined by the current settings of channel 1. For example, while Channel 1 is set between 000 and 029 the following conditions will apply;

- Channel 2 will control Strobing from 0% to 100%
- Channel 3 will control Dimming Intensity from 100% to 0%

Channel	Value	Function		Ch 2	Ch 3
	000 🜣 039	Dimmer /Strobe		Strobe	
		Mode		0 ⇔ 255	
	040 🖘 079	Program 1			
1	080 😂 119	Program 2 Program 3 Program 4		Speed	Intensity 100%⇔ 0%
	120 ⇔ 159			Slow ⇔ Fast	
	160 ⇔ 199				
	200 ⇔ 239	Program 5			
	240 <code-block> 255</code-block>	Sound		No Function	

# **TECHNICAL SPECIFICATIONS**

WEIGHT & DIMENSIONS	
Length	356 mm (14 in)
Width	248 mm (9.75 in)
Height	165 mm (6.5 in)
Weight	2.22 kg (4.9 lbs)
Master Pack	(4 pcs) 12.84 kg (28.3 lbs)
POWER	
Autoswitching power supply	100~240 VAC, 50/60 Hz
Current draw @ 120 V	12 W, 0.1 A, 0.2 A inrush
Current draw @ 230 V	13 W, 0.2 A, 0.3 A inrush
FUSE	
Main	20 mm Glass 2 A Fast Blow
LED	
Quantity	192 Total (white)
	,
PHOTO OPTIC	
Beam Angle	
Field Angle	
Illuminance	
Color Temperature	6,500K~8,000K
CONTROL & PROGRAMMING	
Data input	locking 3-pin XLR male socket
Data output	locking 3-pin XLR female socket
Data pin configuration	pin 1 shield, pin 2 (-), pin 3 (+)
Protocols	DMX-512 USITT
DMX Channels	3
ORDERING INFORMATION	
LED Techno Strobe™	ST-3000LED

# **TECHNICAL SUPPORT**

Address: Service Dept.
3000 N 29th Ct, Hollywood, FL 33020 (U.S.A.)
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